

**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF TEXAS  
WACO DIVISION**

CYBOENERGY, INC., §  
§  
Plaintiff, §  
§  
v. § Case No. 6:22-CV-01136-KC  
§  
ALTENERGY POWER SYSTEM USA, INC., §  
§  
Defendant. §  
§

**DEFENDANT'S RESPONSIVE CLAIM CONSTRUCTION RESPONSE BRIEF**

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Defendant Altenergy Power System USA, Inc. (“APsystems”) hereby submits this brief in support of its proposed constructions of the disputed terms and in response to the arguments contained in Plaintiff CyboEnergy, Inc.’s Opening Claim Construction Brief.

## I. INTRODUCTION

APsystems offers advanced solar microinverter technology for residential and commercial systems. APsystems is a global leader in the development, manufacturing, and marketing of microinverters based on its own proprietary, leading-edge solar technology.

CyboEnergy alleges that APsystems infringes U.S. Patent Number 8,786,133<sup>1</sup> (the “’133 Patent”) and U.S. Patent No. 9,331,489 (the “’489 Patent”). See Ex. 1 and Ex. 2, respectively. The parties currently dispute several claim terms in the ’489 Patent. For most terms, APsystems’ constructions reflect the plain and ordinary meaning to one of ordinary skill in the art, as informed by the patent specification and claim language. Where APsystems’ constructions depart from the plain and ordinary meaning, it is only because (a) the claim term in dispute has no accepted plain and ordinary meaning, (b) the applicants acted as their own lexicographer in defining a term, or (c) the claim term is indefinite under 35 U.S.C. § 112, ¶ 6 (pre-AIA). For the reasons demonstrated below, the Court should adopt APsystems’ correct constructions.

CyboEnergy’s proposed constructions—and its positions in contentions provided to APsystems prior to claim construction briefing—are a different story. CyboEnergy appears to have latched on to the idea that “plain and ordinary meaning” may be a path of least resistance for it in the context of the claim construction vacuum but then deviates from the “plain and ordinary

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<sup>1</sup> In its Claim Construction Opening Brief, Plaintiff accuses “APS of directly infringing the Asserted Patents [.]” Dkt. 36 at 8. However, on September 29, 2023, this Court granted APsystems’ Motion to Dismiss Plaintiff’s claims of direct infringement of the ’133 Patent. Dkt. 33.

meaning” when applying the terms of the ’489 Patent to the accused products. CyboEnergy’s infringement positions rely on implicit constructions that are unsupported by the intrinsic evidence of the patent and completely delete words from the claim. Because the parties’ exchanged contentions highlight that the parties have different views of what the plain and ordinary meaning means as applied to the products at issue, it is necessary for the Court to provide specific context to what the disputed terms mean and determine whether the specification adequately supports and describes certain claim terms such that they have the written description and definite support the law requires. CyboEnergy’s goal is obvious—it wants to keep the asserted claims as flexible and as malleable as possible, so it can try to take different positions on infringement versus invalidity. But flexibility and malleability are not the goals of claim construction, so the Court should reject CyboEnergy’s attempt to inject ambiguity and uncertainty into the claim construction process.

## **II. PARTIES & TECHNOLOGY**

### **A. The Parties**

APsystems was founded in Silicon Valley in 2009, and is now a global leader in the development, manufacturing, and marketing of microinverters based on their own proprietary, leading-edge solar technology. APsystems offers advanced, powerful solar microinverter technology for residential and commercial systems. APsystems USA is based in Austin, Texas.

CyboEnergy is a Delaware Corporation with its principal place of business located in Sacramento County, California. CyboEnergy owns both the ’133 and ’489 Patents by assignment. CyboEnergy manufactures and sells several models of solar power inverters.

In addition to this case, CyboEnergy has asserted the ’133 and ’489 Patents in four other district court cases: *CyboEnergy, Inc. v. Hoymiles Power Elecs. USA, Inc.*, 2:23-cv-00311-JRG (E.D. Tex.) (currently pending); *CyboEnergy, Inc. v. Northern Elec. Power Tech., Inc.*, 3:21-cv-

08534 (N.D. Cal.) (terminated Dec. 27, 2022); *CyboEnergy, Inc. v. Aptos Solar Tech., LLC*, 6:22-cv-00281-ADA (W.D. Tex.) (terminated July 11, 2022); *CyboEnergy, Inc. v. Sensata Techs. Holdings, PLC*, 2:21-cv-08216 (C.D. Cal.) (terminated Apr. 14, 2022).

#### **B. The Alleged Invention of the Asserted Patents**

The '133 and '489 Patents are directed to inverters for converting DC power generated by photovoltaic (“PV”) solar modules, or other DC power sources, into AC power that can be supplied to the AC power grid. As described in their respective specifications, the '133 Patent describes and claims an arrangement for connecting one or more inverters to one or more photovoltaic modules, and the '489 Patent describes and claims a method and apparatus that can optimize power production for solar power systems when there is low sunlight.

More specifically, the '489 Patent is directed to “[m]aximizing power production for solar power systems when there is low sunlight during sunrise, sunset, clouding, partial shading, and other low irradiance conditions.” *See* Ex. 2, '489 Patent at Abstract. Solar panel inverters invert the DC power generated by solar panels to AC power to feed into an electrical power grid or power AC loads. *Id.* at 3:14–16. The inverters’ internal components run on DC power, which may be obtained from the solar panel directly or indirectly. *Id.* at 19–49. A shortcoming of this system is that, when the solar panel is obscured or during times of low sunlight, the DC power voltage produced by the solar panel will drop. *Id.* at 3:66–4:8. If the solar panel’s produced DC power voltage drops below the minimum voltage required to power the internal components of the inverter, the inverter will shut down or stop producing AC power. *Id.* at 4:8–13.

The '489 Patent purports to improve upon prior art solar power inverters through an inverter that can maximize power production during low sunlight conditions. *Id.* at 1:54–57. It does so by working in low power mode, during which it takes “power from one solar panel to

supply DC power to its internal electronic circuits,” while also inverting “the DC power from the remaining connected solar panels to . . . AC power to be sent to the power grid or AC loads.” *Id.* at 1:57–63.

### C. APsystems' Products

Claim construction has the potential to be case dispositive. APsystems’ microinverters apply a different strategy to power their internal components. They do not alter the way that power is provided to the microinverter’s internal components in a low sunlight situation. Power is provided the same way in all light conditions. Thus, the APSystems microinverters do have a low power mode of operation, do not have a dedicated channel that is used under low power conditions and do not have a calculated pre-determined value to trigger a low power operation. CyboEnergy appears to gloss over these differences between the claims and the accused products by saying that terms like “dedicated,” “pre-determined value” or “calculated” are not necessary to the claim. APsystems sees these elements as required claim elements that cannot be read out of the claim.

## III. LEGAL STANDARDS

### A. General Principles

The purpose of claim construction is to “determin[e] the meaning and scope of the patent claims asserted to be infringed.” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc), *aff’d* 517 U.S. 370 (1996). When construing patent claim terms, each term should be given the “meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc). In general, claim terms should be given their plain and ordinary meaning. *PM Holdings LLC v. Heart of Texas Surgery Ctr.*, No. 6:21-cv-644-ADA, 2022 WL 1230272, at \*1 (W.D. Tex. Apr. 26, 2022) (citing *Phillips*, 415 F.3d at 1312). However, a “determination that a

claim term ‘needs no construction’ or has the ‘plain and ordinary meaning’ may be inadequate when a term has more than one ‘ordinary’ meaning or when reliance on a term’s ‘ordinary’ meaning does not resolve the parties’ dispute.” *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1361 (Fed. Cir. 2008).

Additionally, a patentee may act as his own lexicographer or disavow the full scope of the claim term in the specification or during prosecution of the patent. *Thorner v. Sony Comput. Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012). Explicit redefinition or disavowal is not required. *Tr. of Columbia Univ. in City of New York v. Symantec Corp.*, 811 F.3d 1359, 1363 (Fed. Cir. 2016); *see also Bell Atl. Network Servs., Inc. v. Covad Commc'ns Grp., Inc.*, 262 F.3d 1258, 1268 (Fed. Cir. 2001) (“[A] claim term may be clearly redefined without an explicit statement of redefinition.”). “[T]he specification may define claim terms by implication such that the meaning may be found in or ascertained by a reading of the patent documents.” *Irdet Access, Inc. v. Echostar Satellite Corp.*, 383 F.3d 1295, 1300 (Fed. Cir. 2004); *Aventis Pharma S.A. v. Hospira, Inc.*, 675 F.3d 1324, 1330 (Fed. Cir. 2012) (“This clear expression need not be *in haec verba* but may be inferred from clear limiting descriptions of the invention in the specification or prosecution history.”).

Courts begin the claim construction analysis by considering the intrinsic evidence: the claims themselves, the specification, and the prosecution history. *Phillips*, 415 F.3d at 1313–14. “[C]laims ‘must be read in view of the specification, of which they are a part.’” *Id.* at 1314–15 (quoting *Markman*, 52 F.3d at 979). “[T]he specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’” *Id.* (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)).

**B. Indefiniteness Under 35 U.S.C. § 112, ¶ 6 (pre-AIA)**

35 U.S.C. § 112, ¶ 6 (pre-AIA) “allows a patentee to express a claim limitation by reciting a function to be performed rather than by reciting structure or materials for performing that function.” *Northrop Grumman Corp. v. Intel Corp.*, 325 F.3d 1346, 1350 (Fed. Cir. 2003). Such claim limitations are construed “to cover the corresponding structure, materials, or acts described in the specification and equivalents thereof.” 35 U.S.C. § 112, ¶ 6 (pre-AIA). While there is a rebuttable presumption that § 112, ¶ 6 applies only when “means” appears, this presumption “can be overcome and § 112, ¶ 6 will apply if the challenger demonstrates that the claim term fails to ‘recite ... sufficiently definite structure’ or else recites ‘function without reciting sufficient structure for performing that function.’” *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015); *see also Cole v. Kimberly-Clark Corp.*, 102 F.3d 524, 531 (Fed. Cir. 1996) (“[M]erely because an element does not include the word ‘means’ does not automatically prevent that element from being construed as a means-plus-function element.”).

When determining whether a claim limitation is subject to § 112, ¶ 6, “the essential inquiry is not merely the presence or absence of the word ‘means’ but whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.” *Williamson*, 792 F.3d at 1348; *see also Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580, 1583 (Fed. Cir. 1996) (“What is important is ... that the term, as the name for structure, has a reasonably well understood meaning in the art.”).

Once a court determines that a claim term is subject to § 112, ¶ 6, the court next determines “whether the specification discloses sufficient structure that corresponds to the claimed function.” *Williamson*, 792 F.3d at 1351. This is a two-step process. *Id.* “The court must first identify the claimed function. Then, the court must determine what structure, if any, disclosed in the

specification corresponds to the claimed function.” *Id.* (internal citation omitted).

#### **IV. PERSON OF ORDINARY SKILL IN THE ART**

For the claim terms in the ’489 Patent, the parties agree that a relatively low skill level is required. For the issues before this Court, APsystems contends that, in view of the simplicity with which the purported invention of the ’489 Patent is described and claimed, the person having ordinary skill in the art would have a bachelor’s degree in electrical engineering and five years of experience designing grid-connected photovoltaic systems. APsystems reserves the right to dispute the ordinary level of skill in the art for the ’133 Patent because, as set forth below, the claims of that patent are not before the Court at this time.

#### **V. CLAIM TERMS**

CyboEnergy and APsystems have meet and conferred to narrow the issues before the Court. The parties agree that all terms in the ’133 Patent should be given their plain and ordinary meaning. The parties presently dispute three terms of the ’489 Patent.

##### **A. Agreed Construction**

###### **1. “microcontroller . . . arranged to measure input voltage and current to calculate DC input power for each channel” (claim 14(d))**

The parties agree that this claim term should have its plain and ordinary meaning, in which the microcontroller measures the input voltage and current to calculate the DC input power for each DC input channel. ’489 Patent at 5:3–7 (“The digital microcontroller 50 is used to perform a number of tasks including . . . (iii) measuring input voltage and current, and calculating DC input power for each channel . . .”), 6:43–46, 8:12–17, 8:32–37, claim 14(a) (“An m-channel solar power inverter comprising: a) at least two DC input channels . . .”). As required by the remaining language in the claim element, this DC input power calculation is used to determine whether the power inverter should be run in normal or low power mode. ’489 Patent at claim 14(d).

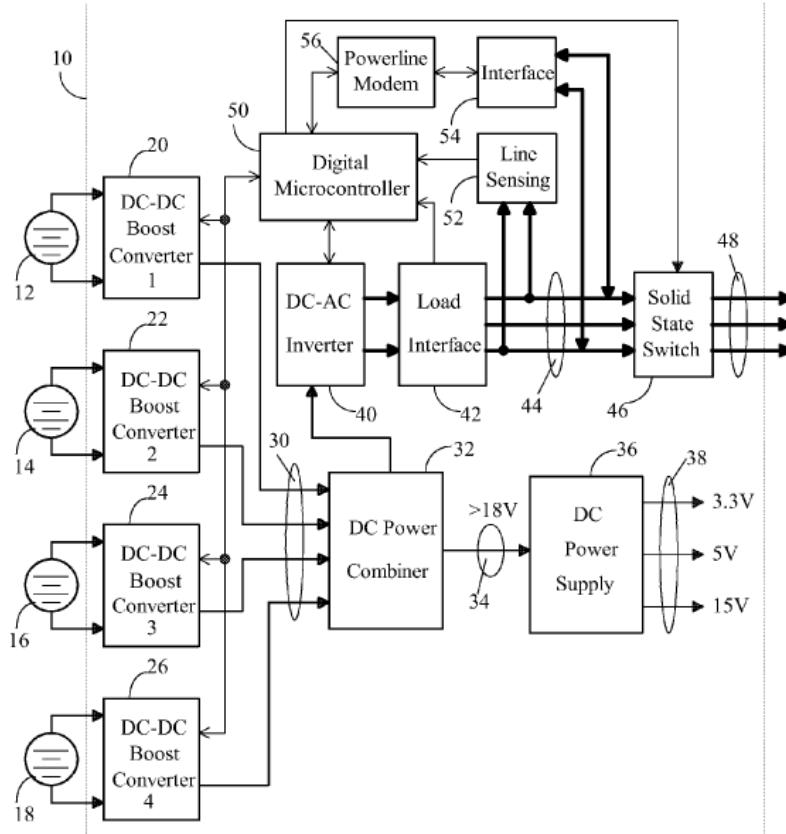
## B. Other Terms

### 1. “DC power combiner . . . for combining DC output from all DC-DC boost converters” (claim 14(c))

APsystems' Construction	CyboEnergy's Construction
Indefinite as a 112(6) element with no corresponding structure disclosed. Alternatively, a device capable of combining DC output from all DC-DC boost converters while also selectively passing through power received from one channel while combining power from the other connected channels.	No construction needed, plain and ordinary meaning.

The term “DC power combiner . . . for combining DC output from all DC-DC boost converters” must be construed as a means-plus-function limitation pursuant to 35 U.S.C. § 112, ¶ 6 because “DC power combiner” is defined entirely in terms of what it does (“The DC power is then combined in the DC power combiner”) (’489 Patent at 4:48–49, 6:20–21, 7:40–41), and its interaction with other parts of the claimed apparatus (i.e., “The internal DC power supply 36 takes DC power from one of the solar panels through its corresponding DC converter and the DC combiner to supply DC power to the internal electronics.”). *Id.* at 4:66–5:2; *see also id.* at 6:38–41, 8:8–11. This invokes § 112, ¶ 6, even without use of the term “means.” *See, e.g., Vantage Point Tech., Inc. v. Amazon.com, Inc.*, No. 2:13-cv-909-JRG, 2015 WL 575167, at \*15–17 (E.D. Tex. Feb. 11, 2015) (treating a term that “appears to be merely a noun form of the claimed . . . function” as means-plus-function).

The claimed function of the “DC power combiner” is to combine DC output from all of the DC-DC boost converters in the solar power inverter. ’489 Patent claim 14. The specification is devoid of any structural description of the claimed “DC power combiner.” It is identified as a literal black box in FIGS. 1–7:



'489 Patent at FIG. 2. The description in FIGS. 1–7 teaches nothing about the structure of the black box “DC power combiner.” The terms “DC power combiner” or “DC combiner” appear without any description of the structure of the device. ’489 Patent at 4:48–49. (“The DC power is then combined in the DC power combiner 32.”); *id.* at 6:20–21 (“The DC power is then combined in the DC power combiner 82.”); *id.* at claim 14(d) (“a DC power combiner connected to said DC-DC boost converters for combining DC output from all DC-DC boost converters”). The term is therefore indefinite under § 112, ¶ 6.<sup>2</sup> See *Media Rts. Techs., Inc. v. Cap. One Fin. Corp.*, 800 F.3d

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<sup>2</sup> To the extent CyboEnergy argues that the structure for this limitation is disclosed in the ’133 Patent specification, which is incorporated by reference in the ’489 Patent specification, such reference is improper. “[M]aterial incorporated by reference cannot provide the corresponding structure necessary to satisfy the definiteness requirement for a means-plus-function clause.” *Default Proof Credit Card Sys., Inc. v. Home Depot U.S.A., Inc.*, 412 F.3d 1291, 1301 (Fed. Cir.

1366, 1373 (Fed. Cir. 2015) (“Nothing in the written description of the [asserted patent] adds sufficiently to the meaning of the term’s structure; it only describes the term’s function and interaction with other parts in the system.”).

Alternatively, in the event that the phrase “DC power combiner . . . for combining DC output from all DC-DC boost converters” is found not to be a means-plus-function limitation, then this claim term is properly construed as “a device capable of combining DC output from all DC-DC boost converters while also selectively passing though power received from one channel while combining power from the other connected channels.” This construction takes into consideration the context of the remaining claim language and the description of the invention in the specification. *See ACTV, Inc. v. Walt Disney Co.*, 346 F.3d 1082, 1090 (Fed. Cir. 2003) (finding that the construction of the term at issue is “principally informed by plain language and the surrounding context of the claims”); *Phillips*, 415 F.3d at 1316 (“A fundamental rule of claim construction is that terms in a patent document are construed with the meaning with which they are presented in the patent document. Thus claims must be construed so as to be consistent with the specification, of which they are a part.”) (quoting *Merck & Co. v. Teva Pharms. USA, Inc.*, 347

2005). Moreover, the reference is merely a general description of the alleged invention of the ’133 Patent, located in the beginning of the ’489 Patent specification. ’489 Patent at 1:19–32. A court “cannot look to the prior art, identified by nothing more than its title and citation in a patent, to provide corresponding structure for a means-plus-function limitation.” *Pressure Prods. Med. Supplies, Inc. v. Greatbatch Ltd.*, 599 F.3d 1308, 1317 (Fed. Cir. 2010). Finally, even if the disclosures in the ’133 Patent could be considered (they cannot), “those disclosures are not clearly linked to the claimed function.” *Mobile Telecomms. Techs., LLC v. Amazon.com, Inc.*, No. 2:13-CV-883-JRG-RSP, 2014 WL 5766050, at \*23 (E.D. Tex. Nov. 5, 2014). The ’133 Patent describes one feature of DC combiners in one embodiment as “a circuit that allow [sic] the output from all DC-DC boost converters to connect in parallel so that all DC currents will be added together.” ’133 Patent at 9:22–26. The DC combiner continues to be described throughout the rest of the ’133 Patent in entirely functional terms—as something that combines. *See e.g., id* at 6:55–56, 7:29–30, 8:46–47. Hence, there is no structure in the ’133 Patent to be incorporated by reference into the ’489 Patent.

F.3d 1367, 1371 (Fed. Cir. 2003)).

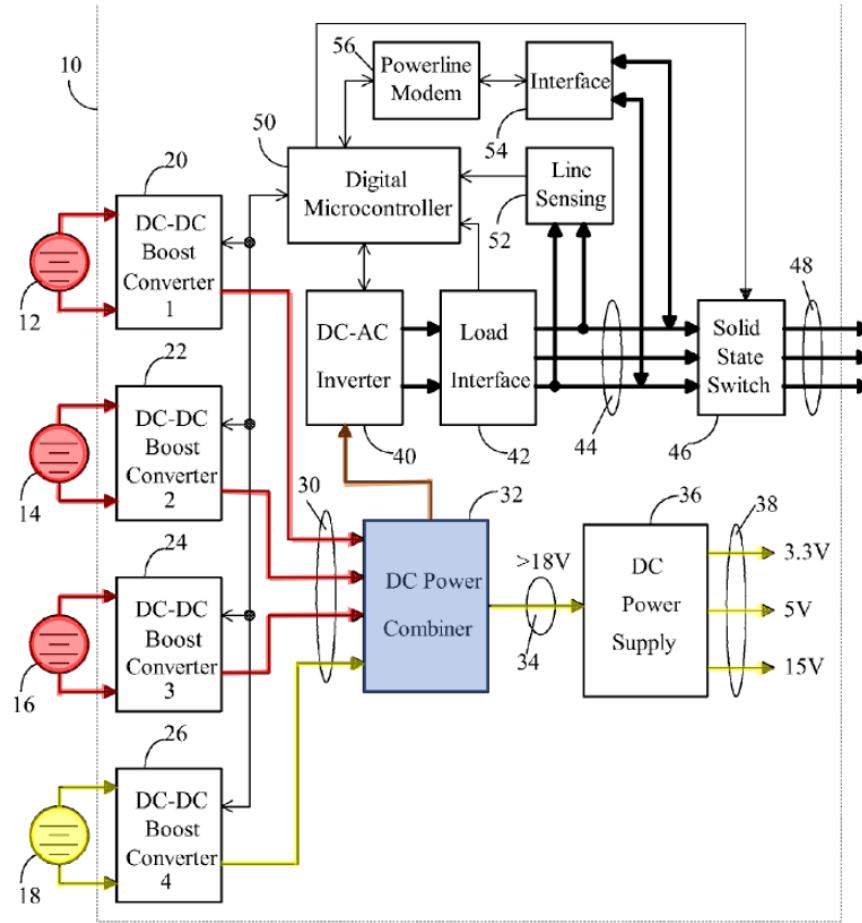
The DC power combiner claim element appears twice in claim 14: first, in limitation (c) as “a DC power combiner connected to said DC-DC boost converters for combining DC output from all DC-DC boost converters” and second, in limitation (e), in which:

a DC power supply ***connected to all input channels through the DC power combiner***, arranged to supply DC power to electronic circuits of the power inverter, and ***configured to take DC power from a dedicated input channel and its connected solar panel*** when the digital microcontroller detects that the calculated input power is below a pre-determined value.

'489 Patent, claim 14 (emphasis added). By the plain language of claim 14, the DC power combiner links the DC power input channels to the DC power supply. When the system is running in low power mode (i.e., the calculated input power is below a pre-determined value), the DC power supply takes DC power from a dedicated input channel and its connected solar panel. The DC power must travel through the DC power combiner to reach the DC power supply, and, thus, the DC power combiner must be able to selectively convey the DC power obtained from one solar panel and its input channel to the DC power supply while combining the power obtained from the other solar panels and input channels.

This construction is also supported by the specification, which explains that:

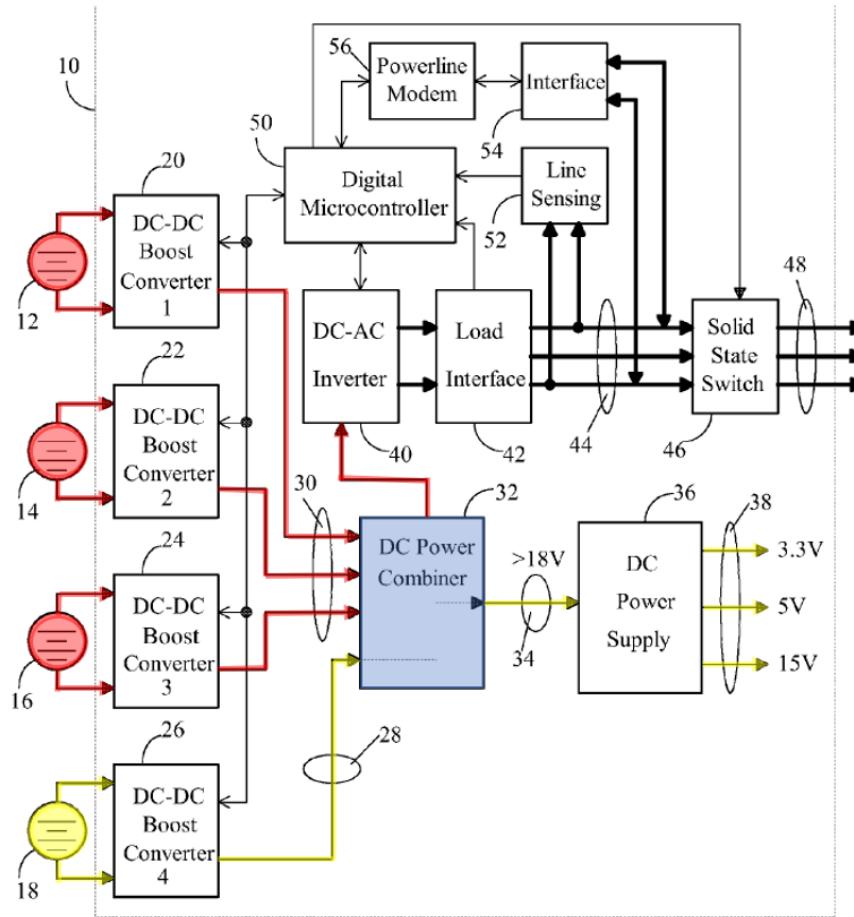
During normal operating conditions, when there is sufficient sunlight, the power from solar panels 12, 14, 16, 18 is delivered to the corresponding DC-DC boost converters 20, 22, 24, 26, respectively. The DC power is then combined in the DC power combiner 32. The total combined DC power is inverted to AC power with voltage larger than 240 VAC by the DC-AC inverter 40. . . . The internal DC power supply 36 ***takes DC power from one of the solar panels through its corresponding DC converter and the DC combiner*** to supply DC power to the internal electronics.



'489 Patent at 4:45–5:2 (emphasis added), FIG. 2; *see also id.* at 6:17–41, 7:36–8:11, FIGS. 4, 6.

In low power mode, the inverter takes “power from one solar panel to supply DC power to its internal electronics and also invert the DC power from” the other solar panels to AC power to send to the power grid. *Id.* at 5:25–31. This is depicted in, for example, FIG. 3, the description for which explains that:

In the low power mode, the digital microcontroller 50 will select a channel such as channel 4 and control the corresponding DC-DC boost converter 26 so that it stops pulling power from its connected solar panel 18 for AC power generation. As illustrated in FIG. 3, ***the DC power from solar panel 18 can pass through the DC converter 26 and DC power combiner 32, and enter DC power supply 36.***



*Id.* at 5:32–38 (emphasis added), FIG. 3; *see also, id.* at 7:3–9, 8:59–65, FIGS. 5, 7.

CyboEnergy accuses APsystems of “searching for an invalidity position.” Dkt. 36 at 14.

This is incorrect, as APsystems’ proposed construction properly takes into consideration the context of the term “DC power combiner” in claim 14 and the description of its function in the claim and specification. By contrast, CyboEnergy advances no construction at all and ignores the specification. The Court should adopt APsystems’ construction. *See, Phillips*, 415 F.3d at 1316 (“A fundamental rule of claim construction is that terms in a patent document are construed with the meaning with which they are presented in the patent document. Thus claims must be construed so as to be consistent with the specification, of which they are a part.”) (quoting *Merck & Co. v. Teva Pharmas. USA, Inc.*, 347 F.3d 1367, 1371 (Fed. Cir. 2003); *see also Phillips* 415 F.3d at 1316

(“the specification necessarily informs the proper construction of the claims”)).

**2. “constructed to run the power inverter in normal or low power mode based on calculated DC input power” (claim 14(d))**

APsystems' Construction	CyboEnergy's Construction
Constructed to run the power inverter in normal mode when the power generated by <b>any</b> of the connected solar panels is above some threshold or in low power mode when the power generated by each of the connected solar panels falls below some threshold.	No construction needed, plain and ordinary meaning

Based on CyboEnergy’s preliminary infringement contentions, it is believed that the parties will dispute the scope of the plain and ordinary meaning of this term. If there is a dispute over the scope of a claim term, it must be construed by the Court; merely adopting an unspecified “plain and ordinary meaning” would be insufficient. *See, e.g., Eon Corp. IP Holdings v. Silver Spring Networks*, 815 F.3d 1314, 1319 (Fed. Cir. 2016). APsystems correctly construes this term as “constructed to run the power inverter in normal mode when the power generated by any of the connected solar panels is above some threshold or in low power mode when the power generated by each of the connected solar panels falls below some threshold” based on the plain meaning of the claim language and the specification.

The entirety of claim element 14(d) provides context for the disputed element: “a digital microcontroller connected to said DC-DC boost converters, arranged to measure input voltage and current to calculate DC input power for each channel, and constructed to run the power inverter in normal or low power mode based on calculated DC power.” ’489 Patent claim 14(d). Thus, element 14(d) provides that the calculated DC power used to decide whether the inverter is in normal or low power mode is the calculated “DC input power for each channel.” Claim element 14(e) claims:

a DC power supply connected to all input channels through the DC power combiner, arranged to supply DC power to electronic circuits of the power inverter, and configured to take DC power from a dedicated input channel and its connected

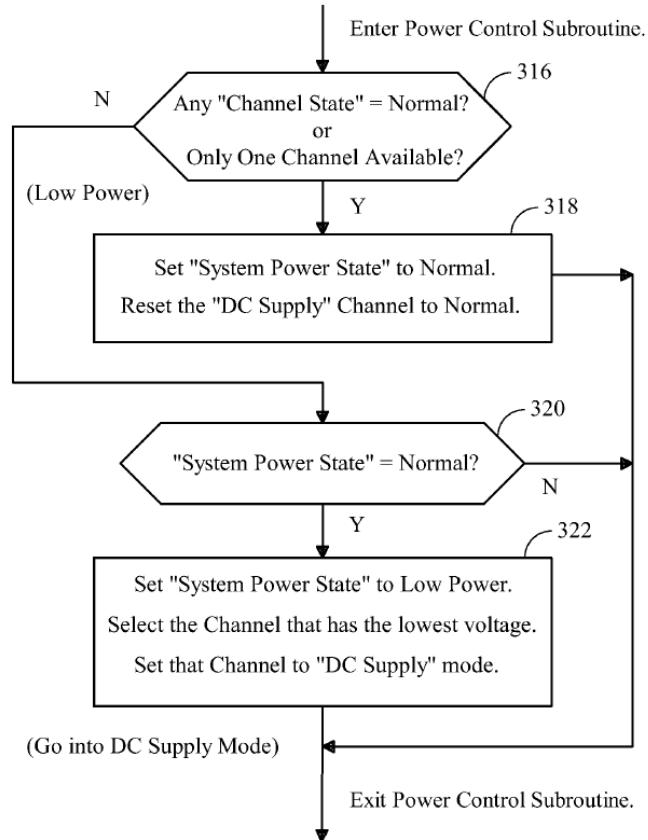
solar panel *when the digital microcontroller detects that calculated input power is below a pre-determined value.*

*Id.* at claim 14 (emphasis added). Here, the claim requires that low power mode (where power is pulled from a dedicated input channel) is triggered by detecting that calculated input power is below a threshold “pre-determined value.” The specification confirms that comparing each channel’s input power to a threshold triggers low power mode when it explains that when the inverter is in the low power state, DC power is pulled from one and only one input channel and its connected solar panel to provide DC power to the electronic circuits of the inverter. *Id.* at Abstract, 1:57–63, 2:10–17, 2:22–29, 2:34–40. The specification also teaches that the inverter enters low power mode based on the calculated DC power. *Id.* at 6:59–62 (“During sunrise, sunset, clouding, or partial shading conditions, the Mini-Inverter can detect the low sunlight situation based on calculated DC input power. Then, it will go into the low power mode.”). Thus, the inverter enters low power mode, and begins using one--and only one--solar panel to provide DC power to the inverter electronics, when the calculated DC power falls below a pre-determined value. Conversely, the specification teaches that the inverter operates in “normal” conditions “where there is sufficient sunlight,” and the calculated DC power is above the pre-determined value that triggers the low-power state. *Id.* at 4:45–48, 5:15–24, 6:54–62, 8:45–51.

The specification further teaches that the software program of the microcontroller:

checks to see if the “Channel State” of *any of the m channels is normal* or if only one channel is available. If the answer is Yes, it means that (i) there is *sufficient irradiance in at least one of the channels* so that it can provide DC power to the internal power supply while generating AC power, or (ii) the m-channel Mini-Inverter has only one channel available, then there is no need to use this channel just to supply DC power to the internal power supply. . . . If the answer is No, it means the system has low power.

*Id.* at 10:30–43 (emphasis added). For the microcontroller to determine whether any m channel is “normal,” it must also determine that there is “sufficient irradiance,” i.e., the power provided by that channel is above a predetermined value. Once the microcontroller determines that all the input channels are below a predetermined value, it will execute functions to set the inverter to low power mode (if it is not already running in low power mode). *Id.* at 43–53. These functions are depicted in Figure 9 of the ’489 Patent, shown at right. For these reasons, the Court should adopt APsystems’ proposed construction for this limitation.



### 3. “configured to take DC power from a dedicated input channel and its connected solar panel” (claim 14(e))

APsystems’ Construction	CyboEnergy’s Construction
Configured to take DC power from one and only one input channel and its connected solar panel.	No construction needed, plain and ordinary meaning

Based on CyboEnergy’s preliminary infringement contentions, it is believed that the parties will dispute the scope of the plain and ordinary meaning of this term. If there is a dispute over the scope of a claim term, it must be construed by the Court; merely adopting an unspecified “plain and ordinary meaning” would be insufficient. *See, e.g., Eon Corp. IP Holdings*, 815 F.3d at 1319. APsystems correctly construes this term as “[c]onfigured to take DC power from one and only one input channel and its connected solar panel.” APsystems’ construction gives meaning to the claim

term “dedicated,” which in view of the specification, means one and only one. In its infringement contentions, CyboEnergy has taken the position that the plain and ordinary meaning of “dedicated” may include more than one, or possibly all, connected input channels. This is not the “plain and ordinary meaning” of the term, and CyboEnergy’s proposal must be rejected because it does not resolve the dispute as to the term’s meaning and scope. *See O2 Micro*, 521 F.3d, at 1361.

A claim term should be given its plain meaning but “must be interpreted in light of the teachings of the written description and purpose of the invention described therein.” *Apple Comput., Inc. v. Articulate Sys., Inc.*, 234 F.3d 14, 25 (Fed. Cir. 2000). Moreover, when a patent “describes the features of the ‘present invention’ as a whole, this description limits the scope of the invention.” *GPNE Corp. v. Apple Inc.*, 830 F.3d 1365, 1370-71 (Fed. Cir. 2016); *see also Superior Indus., Inc. v. Masaba, Inc.*, No. 15-1594, 2016 WL 3090851, at \*4 (Fed. Cir. 2016) (construing “support frame” to require use of an earthen ramp, described as a feature of the “present invention”); *Honeywell Int’l, Inc. v. ITT Indus., Inc.*, 452 F.3d 1312, 1318 (Fed. Cir. 2006) (construing “fuel injection system component” as limited to a fuel filter, described as a feature of the “present invention”).

When considering the degree to which the specification limits the construction of a particular claim term, the Federal Circuit has advised that it “looks to whether the specification refers to a limitation only as a part of less than all possible embodiments or whether the specification read as a whole suggests that the very character of the invention requires the limitation be a part of every embodiment.” *Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361, 1370 (Fed. Cir. 2003). When, as here, “the specification makes clear at various points that the claimed invention is narrower than the claim language might imply, it is entirely permissible and proper to limit the claims.” *Id.* APsystems’ construction is in accord with the description of the alleged

invention in the specification, which describes a solar power inverter that uses DC power obtained from one and only one solar panel to supply DC power to the internal circuits of the inverter when there is low sunlight:

In this patent, a method and apparatus is disclosed for maximizing power production for solar power systems when there is low sunlight during sunrise, sunset, clouding, and partial shading conditions. A multiple-channel solar power Mini-Inverter can work in the low power mode when there is low sunlight, ***take power from one solar panel to supply DC power to its internal electronic circuits***, and also invert the DC power from the ***remaining connected solar panels*** to single phase or three-phase AC power to be sent to the power grid or AC loads.

'489 Patent at 1:54–63 (emphasis added); *id.* at Abstract. Indeed, every embodiment described in the specification requires the alleged invention to *always* take DC power from one and only one input channel and its connected solar panel when the microcontroller is in low power mode:

FIG. 3 is a block diagram illustrating the same 4-channel solar power Mini-Inverter as in FIG. 2, working in the ***low power mode, where it can take power from one solar panel to supply DC power to its internal electronics*** and also invert the DC power from three solar panels to single phase or three phase AC power being sent to the power grid according to an embodiment of this invention...***In the low power mode, the digital microcontroller 50 will select a channel such as channel 4 and control the corresponding DC-DC boost converter 26 so that it stops pulling power from its connected solar panel 18 for AC power generation.*** As illustrated in FIG. 3, the DC power from solar panel 18 can pass through the DC converter 26 and DC power combiner 32, and enter DC power supply 36.

'489 Patent at 4:25–38 (emphasis added).

FIG. 5 is a block diagram illustrating the same m-channel solar power Mini-Inverter as in FIG. 4, working in the ***low power mode, where it can take power from one solar panel to supply DC power to its internal electronics*** and also invert the DC power from the remaining m-1 connected solar panels to single-phase or three-phase AC power being sent to the power grid according to an embodiment of this invention. . .***In the low power mode, the digital microcontroller 100 will select a channel such as channel m and control the corresponding DC-DC boost converter 76 so that it stops pulling power from its connected solar panel 68 for AC power generation.*** As illustrated in FIG. 5, the DC power from solar panel 68 can pass through the DC converter 76 and DC power combiner 82, and enter DC power supply 86.

*Id.* at 6:63–7:9 (emphasis added).

FIG. 7 is a block diagram illustrating the same m-channel off-grid solar power Mini-Inverter as in FIG. 6, working in *the low power mode, where it can take power from one solar panel to supply DC power to its internal electronics* and also invert the DC power from the remaining m-1 connected solar panels to single-phase or three-phase AC power to power an AC load according to an embodiment of this invention. . . *In the low power mode, the digital microcontroller 150 will select a channel such as channel m and control the corresponding DC-DC boost converter 126 so that it stops pulling power from its connected solar panel 118* for AC power generation. As illustrated in FIG. 7, the DC power from solar panel 118 can pass through the DC converter 126 and DC power combiner 132, and enter DC power supply 136.

*Id.* at 8:52–65 (emphasis added).

The “System Power State” saves the status for the system power. If it is normal, all m channels generate AC power. *If it is in the Low Power mode, the digital microcontroller will select a channel that has the lowest input voltage and control the corresponding DC-DC boost converter so that it stops pulling power from its connected solar panel* for AC power generation. Then, *the DC power from the connected solar panel of that channel* will be the input power to the internal DC power supply.

*Id.* at 10:15–23 (emphasis added); *see also* FIGS. 3, 5, and 7.

CyboEnergy disputes APsystems’ construction but offers no substantive construction of its own. Yet CyboEnergy—in its own claim construction brief—agrees with APsystems that a key aspect of the alleged invention is that it “can work in a low power mode when there is low Sunlight, *take power from one Solar panel to Supply DC power to its internal electronic circuits*, and also invert the DC power from the *remaining connected Solar panels* to single phase or three-phase AC power feeding to the electrical grid or powering AC loads.” Dkt. 36 at 6 (emphasis added). For these reasons, the Court should adopt APsystems’ proposed construction for this limitation.

## VI. CONCLUSION

For all of the reasons set forth herein, APsystems respectfully requests the Court enter APsystems’ proposed constructions.

Dated: October 26, 2023

/s/Johanna M. Wilbert

**QUARLES & BRADY LLP**

Michael J. Curley (*pro hac vice*)  
One South Church Avenue, Suite 1800  
Tucson, AZ 85701  
Ph: (520) 770-8700  
michael.curley@quarles.com

**SCOTT, DOUGLASS & McCONNICO, LLP**

Paige Arnette Amstutz  
Texas State Bar No. 00796136  
303 Colorado Street, Suite 2400  
Austin, TX 78701  
Ph: (512) 495-6300  
pamstutz@scottdoug.com

Johanna M. Wilbert (*pro hac vice*)  
411 E. Wisconsin Avenue, Suite 2400  
Milwaukee, WI 53202  
Ph: (414) 277-5000  
johanna.wilbert@quarles.com

Lauren C. Bolcar (*pro hac vice*)  
2020 K Street NW, Suite 400  
Washington, D.C. 20006  
Ph: (202) 372-9600  
lauren.bolcar@quarles.com

Stephen E. Osseiran (*pro hac vice*)  
300 N. LaSalle Street, Suite 4000  
Chicago, IL 60654  
Ph: (312) 715-5000  
stephen.osseiran@quarles.com

**CERTIFICATE OF SERVICE**

Pursuant to Federal Rules of Civil Procedure and Local Rule CV-5, I hereby certify that, on October 26, 2023, all counsel of record who have appeared in this case are being served with a copy of the foregoing via the Court's CM/ECF system.

*/s/ Johanna M. Wilbert*  
Johanna M. Wilbert